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Method and Device for Drying and Keeping Dry Especially Cold-Rolled Strip in the Delivery Area of Cold-Rolling and Strip-Rolling Plants

BACKGROUND OF THE INVENTION

1. Field of the Invention

B2  
The invention relates to a method and a device for drying and keeping dry especially rolled strip (cold-rolled strip) up to approximately 10 mm thickness, preferably smaller than 0.2 mm thickness, in the delivery area of cold rolling and strip-rolling plants, wherein, for separating the "damp area" of the rolling mill relative to the further delivery area, "dry area", downstream of the last roll stand, a partition is arranged whose upper part extends above the strip up to the stand platform and whose lower part below the strip extends down to the base plate.

2. Description of the Related Art

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SUMMARY OF THE INVENTION

3 Based on this known prior art, wherein in many cases the strip is subjected to a vacuum action or an air flow is directed against the working roll, the object of the invention is to configure a simple method and a device, based on this method and comprised of simple components which are suitable for rolling mills, for a contactless sealing of a gap between a partition and a strip at the delivery area of cold-rolling and strip rolling devices such that, with an acceptable energy expenditure and a minimal noise development, a dry strip surface as well as a complete separation of the damp-wet roll area from the finish-rolled strip are achieved by developing the known devices further.

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B4  
The object is solved according to the invention in regard to a method of the aforementioned kind in that the strip is subjected, by the ends of the partition facing the strip and its components, to a gas under pressure, preferably air, at a right angle to the strip surface from above and from below via blast nozzles, so that across the entire strip width an air cushion-like compressed gas buffer is generated in the gap between the ends of the partition facing the strip and the upper and lower strip surfaces, the gap having a width of 0.1 to 1 mm, preferably 0.2 mm, and the compressed gas is guided away above and below the strip parallel to the strip surface in the form of a split flow in the direction toward the rolling mill or the damp area and of a split flow in the opposite direction toward the dry area, and in regard to the device by blast nozzle bars arranged at the end of the movable partitions facing the strip across the entire strip width having blast nozzles oriented perpendicularly onto the strip surface and blast nozzle surfaces formed facing the strip and extending parallel to the strip surface.

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BRIEF DESCRIPTION OF THE DRAWINGS

Further advantages, details, and features of the invention will be explained in the following with the aid of an embodiment illustrated in the drawing figures.

It is shown in:

Fig. 1 a side view of a detail of the partition and gap sealing at the delivery area of a roll stand (partially in section),

Fig. 2 a schematic enlarged detail of the blast nozzle bar according to Fig. 1.

DESCRIPTION OF PREFERRED EMBODIMENTS

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